

REMARKS

This responds to the Office Action mailed on January 4, 2007.

Independent claims 1 and 8 are amended. Claims 5, 12, and 22-25 are canceled, without prejudice, by way of this amendment. New dependent claims 26 and 27 are added. As a result, claims 1-3, 8-10, 26, and 27 are now pending in this application.

For the convenience of the Examiner, Applicants' remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Amendments to Claims 1 and 8

Claims 1 and 8 have been amended. No new matter has been introduced.

New Claims 26 and 27

New claims 26 and 27 have been added to provide Applicants with additional protection to which Applicants are entitled. New claims 26 and 27 are supported by the original disclosure, e.g. page 5, lines 2-4. No new matter has been introduced.

Rejection of Claims 1-3, 5, 8-10, 12, and 22-25 under 35 U.S.C. §103(a) as Unpatentable over Tsukada

Claims 1-3, 5, 8-10, 12, and 22-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tsukada et al. (U.S. 5,451,721).

As mentioned above, claims 5 and 22-25 have been canceled.

Tsukada discloses a multi-layered printed circuit board (see Abstract). In one embodiment, it has a lower conductive layer 14'' (FIG. 1I, described in cols. 3 and 4) that may be patterned (FIG. 1H) to mount such components as resistors and capacitors (col. 4, lines 5-9) for power supply purposes. The signal wiring conductors 40 (FIG. 1H) on the upper surface may provide SMT component mounting terminals (col. 4, lines 3-5).

The Examiner asserts that Tsukada teaches the various elements of independent claims 1 and 8.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

Tsukada fails to teach or suggest all of the claim limitations present in independent claims 1 and 8, as amended, so a *prima facie* case of obviousness has not been established.

For example, some of the limitations of claim 1, as amended, that Tsukada fails to disclose are a plurality of ball-grid array connectors on a first surface of an uppermost one of the second plurality of conductive layers to couple to corresponding terminals of a die; a single conductive layer on a second side of a core member, wherein the single conductive layer comprises a plurality of lands; and a plurality of solder balls, coupled to corresponding ones of the plurality of lands, to couple to corresponding terminals of a receiving substrate.

Some of the limitations of claim 8, as amended, that Tsukada fails to disclose include *inter alia* a die having a plurality of terminals; a receiving substrate having a plurality of terminals; a plurality of ball-grid array connectors on a first surface of an uppermost one of a second plurality of conductive layers, the connectors being coupled to corresponding terminals of the die; a single conductive layer on a second side of the core member, wherein the single conductive layer comprises a plurality of lands; and a plurality of solder balls, coupled between ones of the plurality of lands and corresponding terminals of the receiving substrate.

For the above reasons, claims 1 and 8 should be found to be allowable over Tsukada, and Applicant respectfully requests that the rejection of claims 1 and 8 under 35 U.S.C. §103(a) as being unpatentable over Tsukada should be withdrawn.

Those claims that depend from claims 1 and 8, respectively, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Additional Elements and Limitations

Applicants consider additional elements and limitations of the rejected pending claims to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

Reservation of Rights

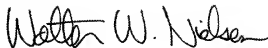
In the interest of clarity and brevity, Applicants may not have addressed every assertion made in the Office Action. Applicants' silence regarding any such assertion does not constitute any admission or acquiescence. Applicants reserve all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. §1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. Applicants reserve all rights to pursue any canceled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP §821.04.

Conclusion

Applicants respectfully submit that claims 1-3, 8-10, 26, and 27 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney Ann M. McCrackin (located in Minneapolis, Minnesota) at (612) 349-9592 or Applicants' below-signed attorney (located in Phoenix, Arizona) to facilitate prosecution of this application.

Respectfully submitted,
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